

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 4)

15. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction V (D). The map must further clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No. E-3, 3A

16. Attach as an Exhibit *(name the source)* a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No. E-5, 6

(a) the proposed transmitter location, and the radials along which profile graphs have been prepared;

(b) the 316 mV/m and 1 mV/m predicted contours; and

(c) the legal boundaries of the principal community to be served.

17. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour.

Area 3,794 sq. km. Population 175,119

18. For an application involving an auxiliary facility only, attach as an Exhibit a map *(Sectional Aeronautical Chart or equivalent)* that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No. NA

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license.

19. Terrain and coverage data *(to be calculated in accordance with 47 C.F.R. Section 73.313)*

Source of terrain data: *(check only one box below)*

☒ Linearly interpolated 30-second database ☐ 7.5 minute topographic map

(Source: NGDC)

☐ Other *(briefly summarize)*

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 8 to 16 km (meters)	Predicted Distances	
		To the 316 mV/m contour (kilometers)	To the 1 mV/m contour (kilometers)
*	377	27.3	45.2
0	110	14.7	26.1
45	33	8.1	14.4
90	214	20.8	35.3
135	315	25.0	41.8
180	434	29.2	48.2
225	418	28.6	47.2
270	275	23.4	39.5
315	356	26.5	44.1

*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

20. Environmental Statement/(See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact? ☐ Yes ☒ No

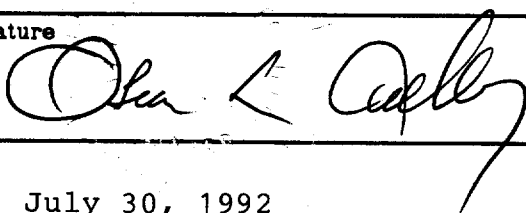
If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1811.



Exhibit No.
NA

If No, explain briefly why not. The proposed site is an official antenna farm, the proposed tower height is less than 61 meters and there are no bird sanctuaries or historical places in the vicinity.

CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed) Oscar leon Cuellar	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer
Signature 	Address (Include ZIP Code) 1273 Sable Blvd. Aurora, CO 80011-6825
Date July 30, 1992	Telephone No. (Include Area Code) (303) 366-3618 FAX#366-3627

 <p>U.S. Department of Transportation Federal Aviation Administration</p>		<h2 style="margin: 0;">NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION</h2>		Aeronautical Study Number	
1. Nature of Proposal				2. Complete Description of Structure	
A. Type <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration		B. Class <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Temporary (Duration _____ months)		C. Work Schedule Dates Beginning <u>Upon FCC grant</u> End <u>30 days later</u>	
3A. Name and address of individual, company, corporation, etc. proposing the construction or alteration. (Number, Street, City, State and Zip Code) (509) <u>248-4722</u> area code Telephone Number <div style="border: 1px solid black; padding: 5px; margin: 5px;"> KZTA Broadcasting, Inc. P.O. Box 2489 Yakima, WA 98907 </div>				A. Include effective radiated power and assigned frequency of all existing, proposed or modified AM, FM, or TV broadcast stations utilizing this structure. B. Include size and configuration of power transmission lines and their supporting towers in the vicinity of FAA facilities and public airports. C. Include information showing site orientation, dimensions, and construction materials of the proposed structure. 3-Bay side-mounted, 42m above ground on a 46m uniform cross-section guyed tower. 3.5 kW-ERP, 99.7 MHz (if more space is required, continue on a separate sheet.)	
B. Name, address and telephone number of proponent's representative if different than 3 above Oscar Leon Cuellar 1273 Sable Blvd. Aurora, CO 80011-6825 (303)366-3618					
4. Location of Structure				5. Height and Elevation (Complete to the nearest foot)	
A. Coordinates (To nearest second) 46° 31' 20" Latitude 120° 19' 59" Longitude		B. Nearest City or Town, and State Yakima, WA		C. Name of nearest airport, heliport, flightpark, or seaplane base Yakima	
(1) Distance to 4B 16.3km Miles		(1) Distance from structure to nearest point of nearest runway 15.5km		A. Elevation of site above mean sea level 668m	
(2) Direction to 4B 303.28° T		(2) Direction from structure to airport 290° T		B. Height of Structure including all appurtenances and lighting (if any) above ground, or water if so situated 46m	
(3) Overall height above mean sea level (A + B) 714m					
D. Description of location of site with respect to highways, streets, airports, prominent terrain features, existing structures, etc. Attach a U.S. Geological Survey quadrangle map or equivalent showing the relationship of construction site to nearest airport(s). (if more space is required, continue on a separate sheet of paper and attach to this notice.) 16.3 km from the official center of the City of Yakima on a bearing of 123.15° True, atop Elephant Mountain(See Exhibit E-2,3)					
Notice is required by Part 77 of the Federal Aviation Regulations (14 C.F.R. Part 77) pursuant to Section 1101 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1101). Persons who knowingly and willingly violate the Notice requirements of Part 77 are subject to a fine (criminal penalty) of not more than \$500 for the first offense and not more than \$2,000 for subsequent offenses, pursuant to Section 902(a) of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1472(a)).					
I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to obstruction mark and/or light the structure in accordance with established marking & lighting standards if necessary.					
Date July 30, 1992		Typed Name/Title of Person Filing Notice Oscar Leon Cuellar, Consulting Eng.		Signature 	
FOR FAA USE ONLY					
<div style="display: flex;"> <div style="flex: 1;"> The Proposal: <input type="checkbox"/> Does not require a notice to FAA. <input type="checkbox"/> Is not identified as an obstruction under any standard of FAR, Part 77, Subpart D, and would not be a hazard to air navigation. <input type="checkbox"/> Is identified as an obstruction under the standards of FAR, Part 77, Subpart C, but would not be a hazard to air navigation. <input type="checkbox"/> Should be obstruction <input type="checkbox"/> marked, <input type="checkbox"/> lighted per FAA Advisory Circular 70/7460-1 Chapter (4). <input type="checkbox"/> Obstruction marking and lighting are not necessary. </div> <div style="flex: 1;"> Supplemental Notice: <input type="checkbox"/> Within the 30-day period of the determination, unless: (a) extended, revised, or terminated by the issuing office. (b) the construction is subject to the licensing authority of the Federal Communications Commission and an application for a construction permit is made to the FCC on or before the above expiration date. In such case the determination expires on the date described by the FCC for completion of construction, or on the date the FCC denies the application. NOTE: Request for extension of the 30-day period of this determination must be re-marked or delivered to the issuing office at least 15 days prior to the expiration date. If the structure is subject to the licensing authority of the FCC, a copy of this determination will be sent to that Agency. </div> </div>					
Remarks:					
Issued In		Signature		Date	

PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 1
JULY 1992

ENGINEERING STATEMENT

Concerning a Construction Permit (CP) for a change in frequency and power increase.

The applicant, KZTA Broadcasting, Inc., licensee of Radio Station KZTA, FCC File No. BALH-920218EE, hereinafter referred to as "KZTA", presently operating in the frequency of 99.3 MHz, Ch. 257A, 3 kW-ERP, at Yakima, Washington, herein proposes to change frequency to 99.7 MHz, Ch. 259C3, change the antenna location atop Elephant Mountain, operating non-directional and circularly polarized with 3.5 kW of ERP. No change in the City of license is proposed.

By virtue of the Height of the Antenna Radiation Center Above Average Terrain (HARC-AAT) of 269 meters, it is imperative to reduce the ERP to 3.5 kW complying, therefore, with the equivalent 25 kW-ERP at 100 meters of HARC-AAT pertaining to a Class C3 FM channel.

This report has been prepared in accordance with the Rules of the Commission pursuant to the provisions of Section V-B of FCC Form 301 on behalf of KZTA.

ANTENNA AND TRANSMITTER LOCATION

The proposed site is located atop Elephant Mountain in Yakima County, 16.3 km from the official center of the City of Yakima, on a bearing of 123.15° true. The official coordinates of the City of Yakima were obtained from a Special Publication No. 238 of the U.S.D.C. Coast and Geodetic Survey and are as follows:

North Latitude:	46°	36'	09"
West Longitude:	120°	30'	39"

OSCAR LEON CUELLAR, P.E.

CONSULTING ENGINEER ■ 1273 SABLE BOULEVARD AURORA, COLORADO 80011-6825 ■ (303) 366-3618

PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 2
JULY 1992

ENGINEERING STATEMENT (Continued)

The geographic coordinates of the proposed site are shown on Exhibit No. E-3 and are as follows:

North Latitude:	46°	31'	20"
West Longitude:	120°	19'	59"

OTHER COMMUNICATIONS FACILITIES

There are other communications facilities atop Elephant Mountain. The frequencies and the organizations utilizing them were supplied by Mr. Tom Buchholtz, Manager of the Washington State Department of Natural Resources. Mr. Buchholtz has authorized KZTA's use of Elephant Mountain for operation on Channel 259C3. The frequencies are as follows:

<u>Organization</u>	<u>Receiving Frequency</u>	<u>Transmitting Frequency</u>
Sheriff's Department	155.010	155.010
	460.500	465.500
	155.730	155.730
	156.150	156.150
MEDCOM	468.050	463.050
	468.075	463.075
	468.175	463.150
	467.920	462.920
Yakima Detectives	154.740	154.740
Fire Department	153.950	154.385
Public Works	151.055	159.120
COOP Extension	458.250	453.250

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PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 3
JULY 1992

ENGINEERING STATEMENT (Continued)

An Intermodulation Interference Study (IIS) was conducted in the vicinity of the proposed site. The study revealed that no interference would result to any of the extant frequencies listed above from the proposed KZTA operation. An additional IIS was conducted on the extant frequencies alone. That study indicated that there already exists some interaction to 458.250 and 468.050 by the extant frequencies.

In keeping with FCC Section 73.318(c) and (d), the Permittee "will assume full financial responsibility for remedying new complaints of blanketing interference for a period of one year." "Following the one year period of full financial obligation to satisfy blanketing complaints," the licensee will "provide technical information or assistance to complaints on remedies for blanketing interference." Additionally, there are no dwellings within a radius of 1.4 km from the proposed site.

Distance to the 115 dBu Blanketing Contour:

$$D = 0.394 \sqrt{3.5} = 0.74 \text{ km}$$

PREDICTED COVERAGE CONTOURS

The proposed antenna will be side-mounted 42 meters above ground on a 46 meter uniform cross-section guyed tower as shown in Exhibit No. E-2. The location of the predicted coverage contours shown in Exhibit Nos. E-5 and E-6 were computed in accordance with Section 73.313 of the Rules, using a computer.

The average elevation of terrain (3-16 km) in meters above MSL was computed using the NGDC, thirty second point topographic database. The area and population within the 1 mV/m (60 dBu) contour were obtained in a computer using the U.S. 1990 Census data. A computer generated analysis of the topography of the terrain is as follows:

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PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 4
JULY 1992

ENGINEERING STATEMENT (Continued)

<u>Azimuth Degrees True</u>	<u>Average Elevation of Radial (3-16 km) Meters AMSL</u>
0	600
45	677
90	496
135	395
180	276
225	292
270	435
*303.28	333
315	354

*radial over Yakima, Washington.

Thus, this analysis renders the following tabulation:

Ave. Elevation of Site AMSL	441m
Site Elevation AMSL	668m
Height of ARC-AG	42m
Height of ARC-AMSL	710m
Height of ARC-AAT	269m
ERP*	3.5 kW
Physical Height of Structure	46m

*equivalent to 25 kW of ERP for a HARC-AAT of 269m.

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PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 5
JULY 1992

ENGINEERING STATEMENT (Continued)

Azimuth Degrees True	HARC-AAT of Radial (3-16 km) Meters	70 dBu 3.16 mV/m km	60 dBu 1 mV/m km	54 dBu 0.5 mV/m km
0	110	14.7	26.1	39.8
45	33	8.1	14.4	21.4
90	214	20.8	35.3	52.9
135	315	25.0	41.8	62.4
180	434	29.2	48.2	72.8
225	418	28.6	47.2	71.5
270	275	23.4	39.5	58.8
303.28	377	27.3	45.2	68.0
315	356	26.5	44.1	66.2

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99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 6
JULY 1992

ENGINEERING STATEMENT (Continued)

DISTANCE SEPARATION SITE ALLOCATION STUDY IN RELATION TO CO-CHANNEL AND ADJACENT CHANNELS					
Ch. No.	Call	City	State	<u>Separation km</u>	
				Required	Extant
256	No stations within 96 km			96	96+
257	No stations within 96 km			96	96+
258A	KXAA	Rock Island	WA	89	95.5
259A	Allocated to Chilliwack, BC-CA			206	318.9
260	KISW	Seattle	WA	176	176.41
261	No stations within 96 km			96	96+
262C1	KWIQ	Moses Lake	WA	76	105.4

There are no stations within 31 km for consideration regarding separation of frequencies 10.6 or 10.8 MHz, Ch. Nos. 205 and 206.

Yet, the proposed site is within 320 km of the common Canadian border, no short spacing to any proposed or extant Canadian stations would result.

Thus, the proposed KZTA antenna site fully complies with the minimum distance separation requirements as directed in Section 73.307 of the Rules.

ENVIRONMENTAL CONSIDERATIONS

The proposed site is an official antenna farm. Considering that the tower to be utilized is much less than 61m in height, that there are no known bird sanctuaries in the vicinity or historical

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PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

EXHIBIT NO. E-1
Page 7
JULY 1992

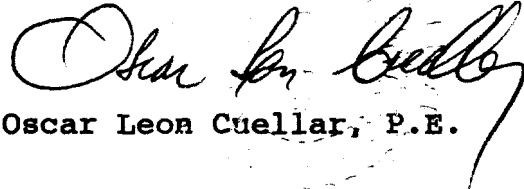
ENGINEERING STATEMENT (Continued)

landmarks, and that there are no people living in the area of Elephant Mountain, no environmental impact is expected and as such, will not be necessary to submit an Environmental Impact Study.

The proposed KZTA operation upon the allocation of Channel 259C3 to Yakima, Washington, fully complies with all the Rules of the Commission.

The proposed KZTA, as specified in the instant report, would bring a new FM stereophonic signal to 175,119 people (1990 U.S. Census) residing in an area of 3,794 sq. km. encompassed by the 1 mV/m (60 dBu) contour.

Very respectfully submitted,



Oscar Leon Cuellar, P.E.

(Seal)

July 30, 1992

OSCAR LEON CUELLAR, P.E.

CONSULTING ENGINEER ■ 1273 SABLE BOULEVARD AURORA, COLORADO 80011-6825 ■ (303) 366-3618

PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

A F F I D A V I T

State of Colorado)
)
City of Aurora)
)
County of Arapahoe)
)

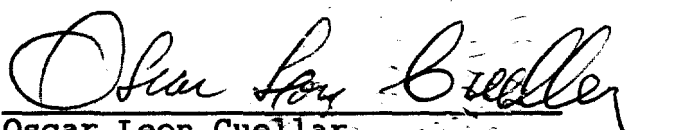
ss:

This FM Engineering Exhibit of KZTA, requesting a change in frequency to 99.7 MHz (Channel 259C3) to Yakima, Washington, has been prepared by Oscar Leon Cuellar, P.E., Consulting Radio Engineer, at Aurora, Colorado.

I am a registered professional engineer in the states of Arizona and Colorado and my engineering qualifications are a matter of record with the Federal Communications Commission since 1963.

All data and statements contained herein are true and correct to the best of my knowledge and belief.

(SEAL)


Oscar Leon Cuellar

Subscribed and sworn to before me this 30th day of July, 1992, at Aurora, Colorado.

(SEAL)


Notary Public

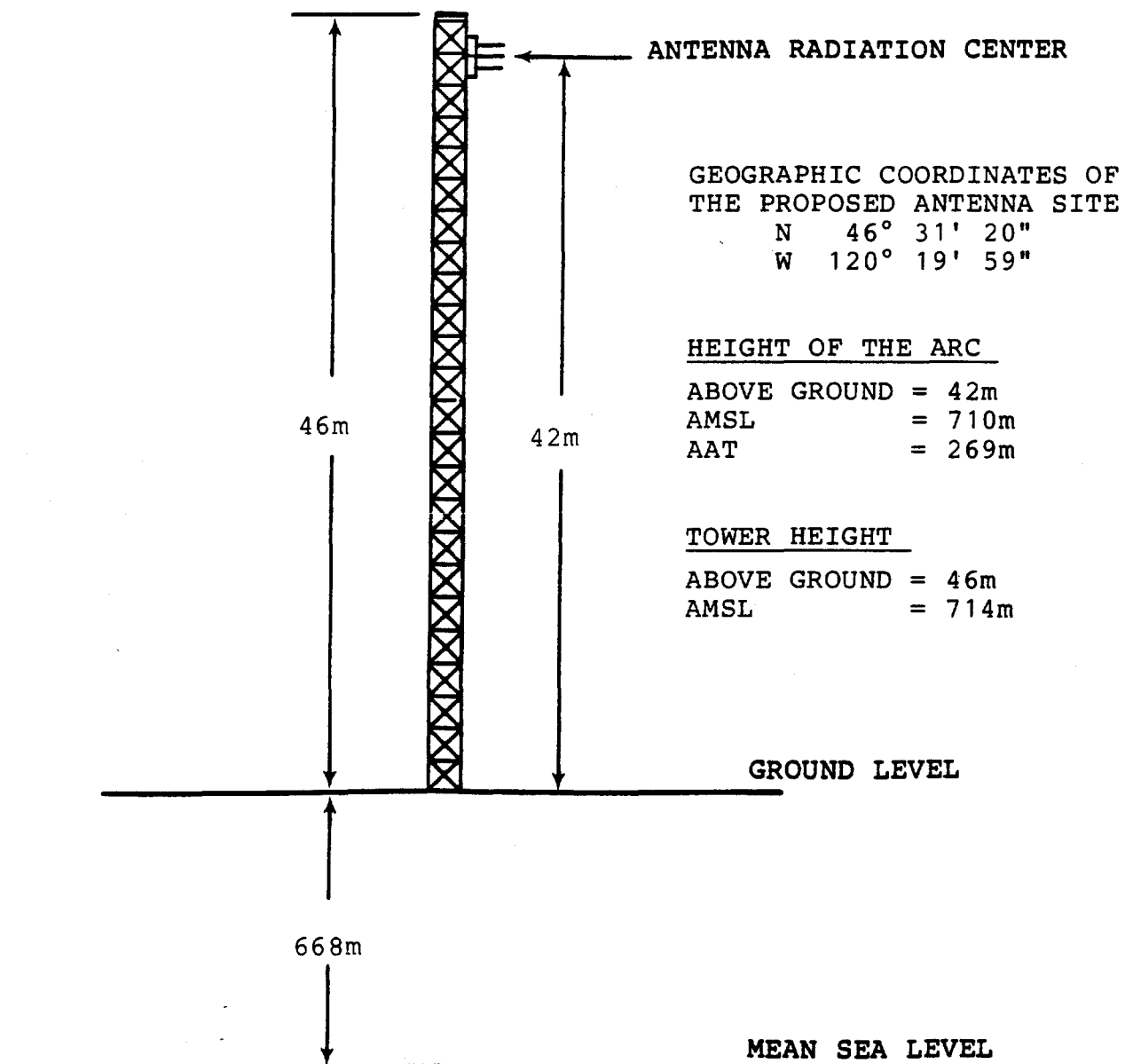
My Commission expires March 14, 1994.

OSCAR LEON CUELLAR, P.E.

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VERTICAL SKETCH

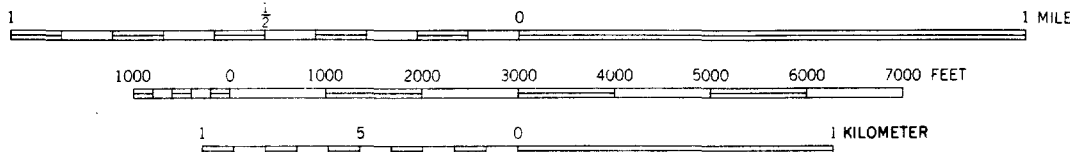
PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON
JULY 1992



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SCALE 1:24000



TOPOGRAPHIC SITE MAP

EXHIBIT NO. E-3

46° 32' 30"

Elephant Mountain



GEOGRAPHIC COORDINATES OF
THE PROPOSED ANTENNA SITE

N 46° 31' 20"
W 120° 19' 59"

SITE ELEVATION = 668mAMSL

PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON
JULY 1992

120° 20' 00"

120° 17' 30"

46° 30' 00"

040 000 FEET

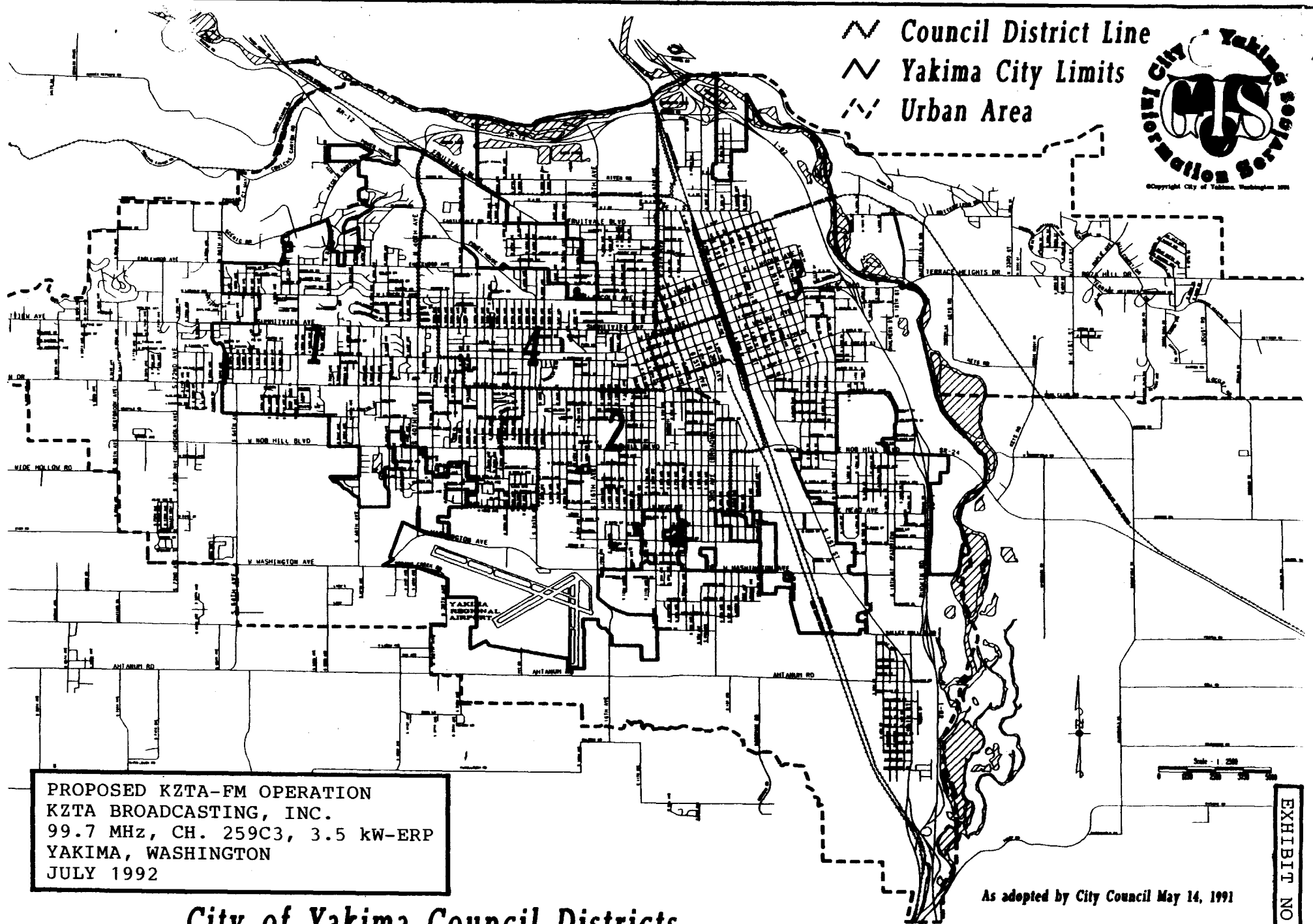
20'

705

(TOPPENISH)

17'30"

708



- ~ Council District Line
- ~ Yakima City Limits
- Urban Area



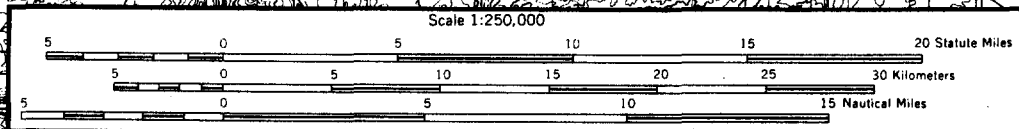
PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON
JULY 1992

City of Yakima Council Districts

As adopted by City Council May 14, 1991

Yakima, Washington

EXHIBIT NO. E-4



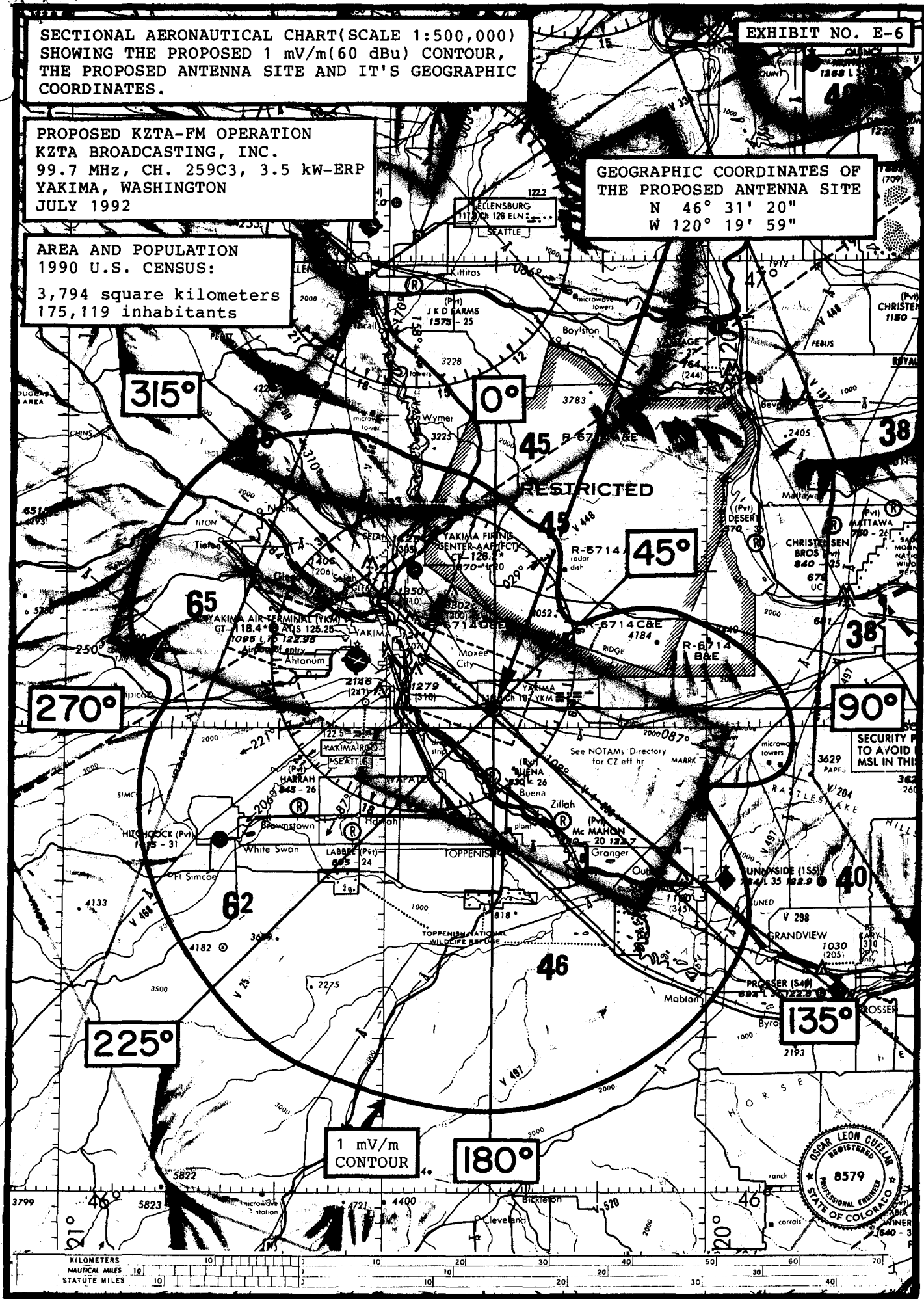
SECTIONAL AERONAUTICAL CHART(SCALE 1:500,000)
SHOWING THE PROPOSED 1 mV/m(60 dBu) CONTOUR,
THE PROPOSED ANTENNA SITE AND IT'S GEOGRAPHIC
COORDINATES.

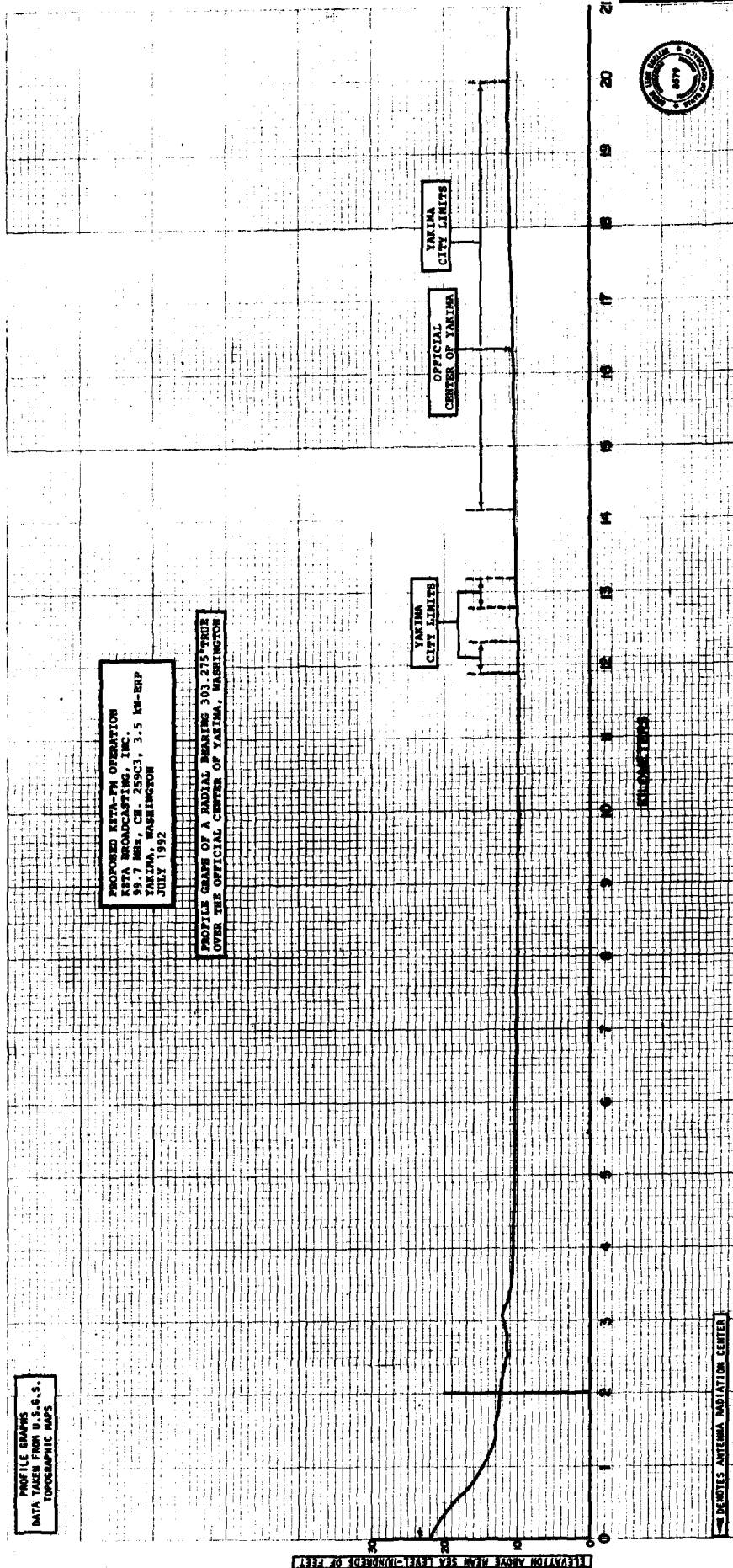
EXHIBIT NO. E-6

PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON
JULY 1992

GEOGRAPHIC COORDINATES OF
THE PROPOSED ANTENNA SITE
N 46° 31' 20"
W 120° 19' 59"

AREA AND POPULATION
1990 U.S. CENSUS:
3,794 square kilometers
175,119 inhabitants





**EVALUATION COMPLIANCE WITH FCC
SPECIFIED GUIDELINES FOR HUMAN
EXPOSURE TO RADIO FREQUENCY RADIATION**

Exhibit No. E-8
July 1992

PROPOSED KZTA-FM OPERATION
KZTA BROADCASTING, INC.
99.7 MHz, CH. 259C3, 3.5 kW-ERP
YAKIMA, WASHINGTON

The following calculation, made in accordance with OST Bulletin No. 65, October 1985, indicates that the proposed operation does not exceed the recommended exposure level in accessible areas, thus, in compliance with FCC specified guidelines for Human Exposure to Radio Frequency Radiation.

Using Formula (4), page 8 of OST Bulletin 65, October 1985, and assuming 5 meters from the broadcast tower (worse case), we have:

$$R = (5^2 + 42^2)^{1/2} = 42.3m = 4230cm$$

$$S = \frac{(0.64)(1.64)(7000 \text{ watts})(1000 \text{ milliwatts/watt})}{(4230)^2}$$

$$S = 0.131 \text{ mW/cm}^2$$

Note: At the base of the broadcast tower the power density is much less than 0.15 mW/cm^2 .

There are no dwellings within a radius of 1.4 kilometers from the broadcast tower. Yet, the radius of the distance to the 115 dBu contour is only:

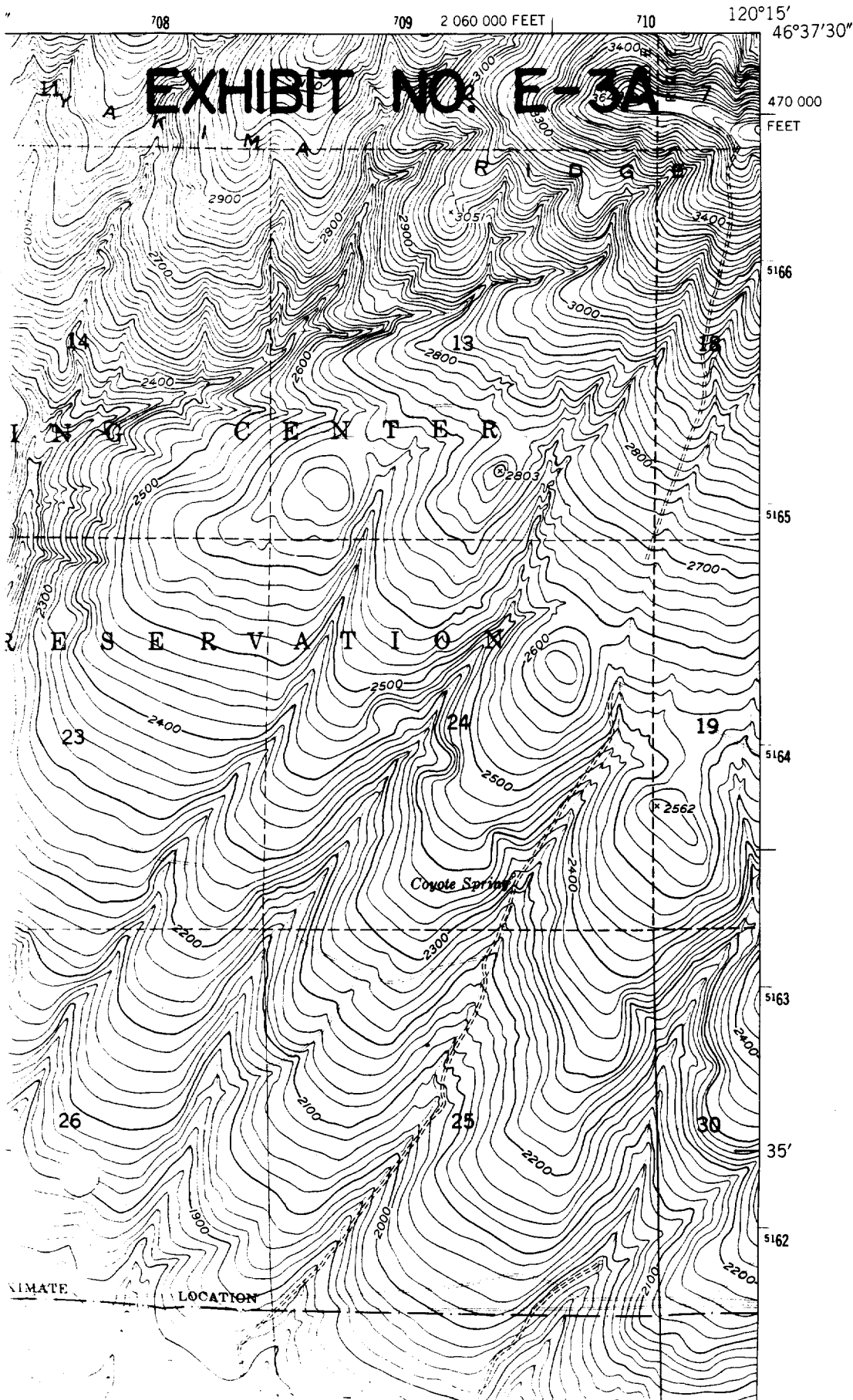
$$\text{Blanket Contour } D = 0.394 \sqrt{3.5} = 0.737 \text{ km}$$

OSCAR LEON CUELLAR, P.E.

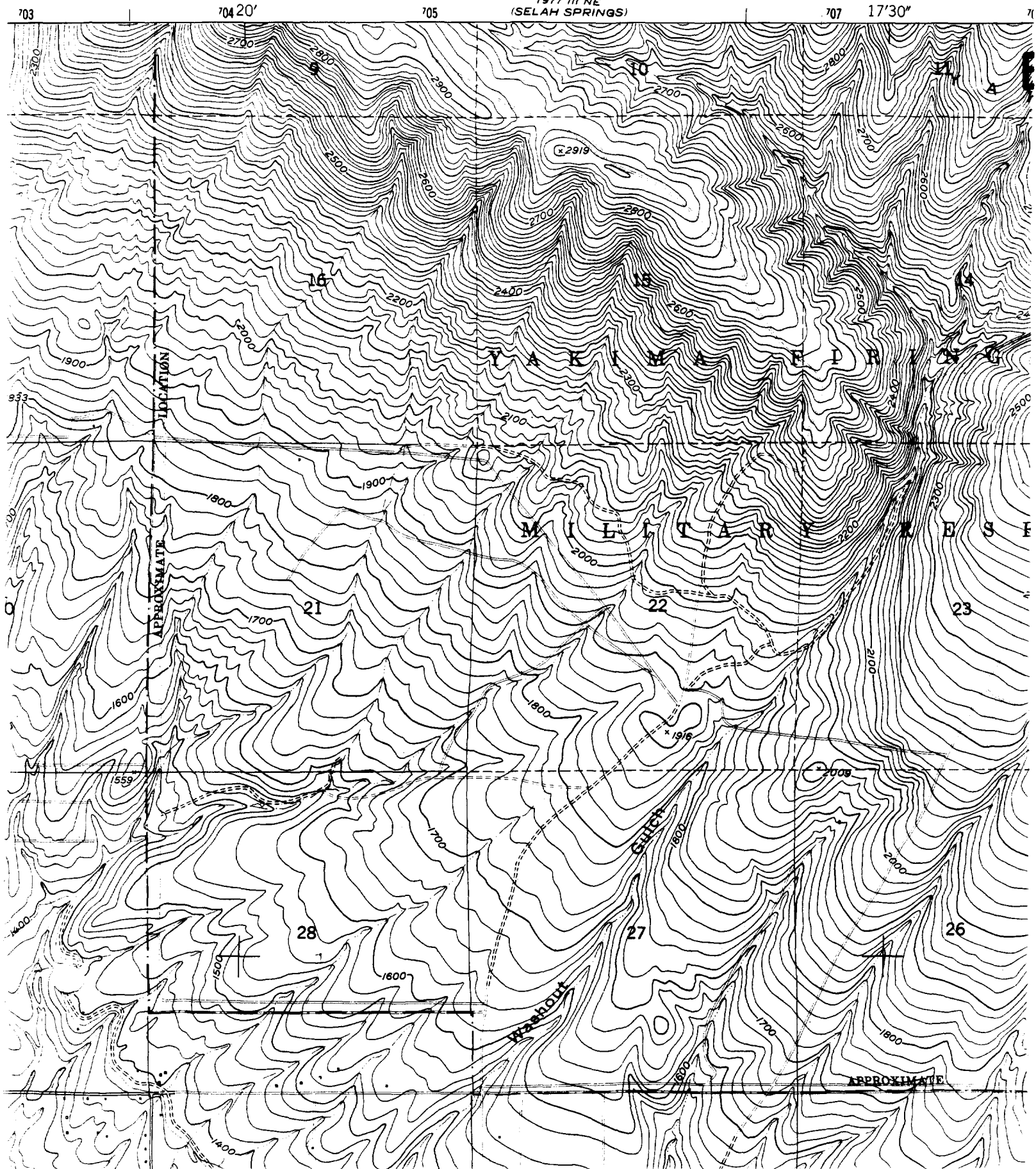
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ELEPHANT MOUNTAIN QUADRANGLE
WASHINGTON-YAKIMA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
SE/4 YAKIMA EAST 15' QUADRANGLE

1977 II NW
(BLACK ROCK SPRING NW)



1977 III NE
(SELAH SPRINGS)



1977 II NW
(POMONA)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

120°22'30"
46°37'30"

702000m E

703

704

5166000m N

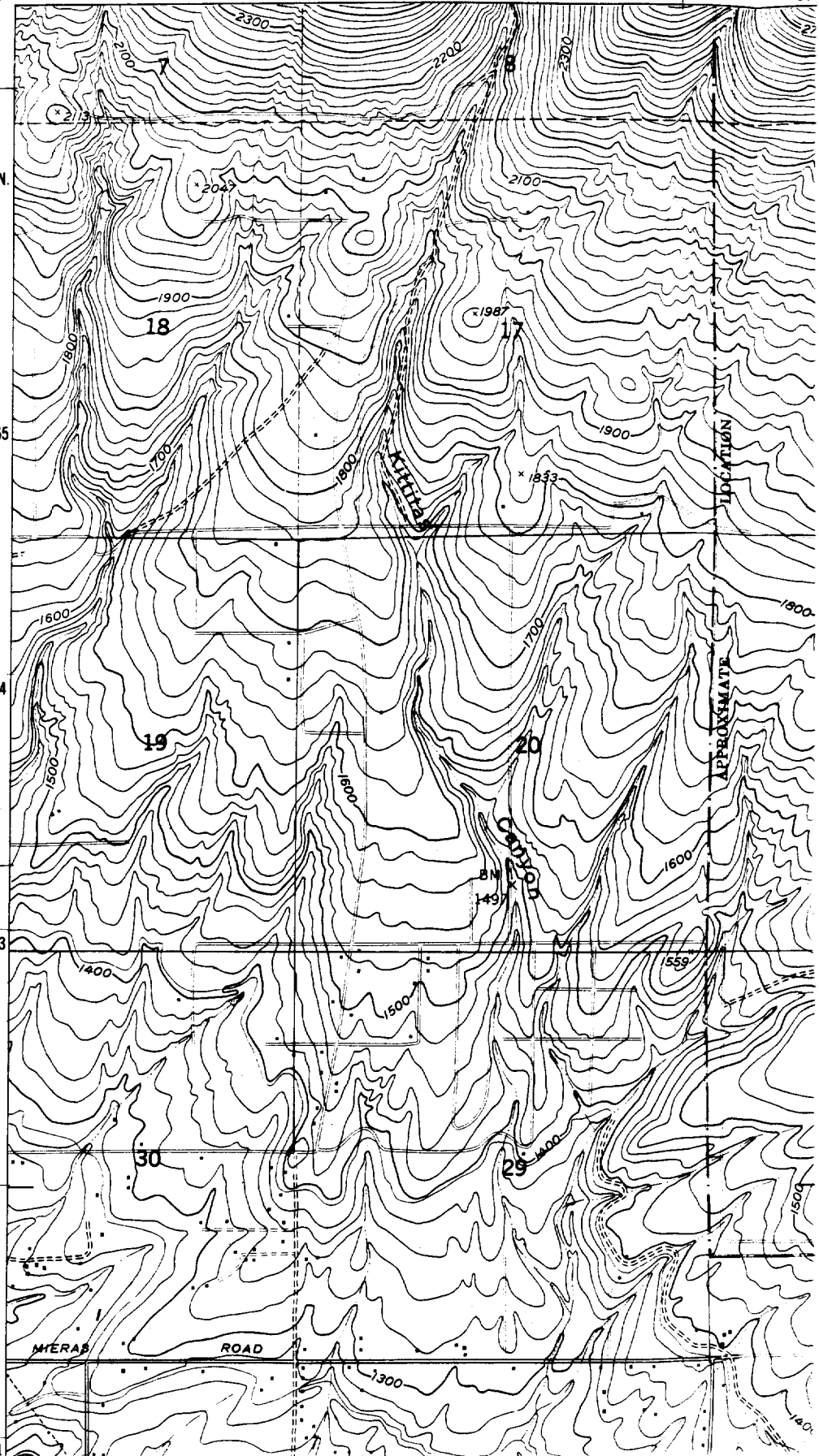
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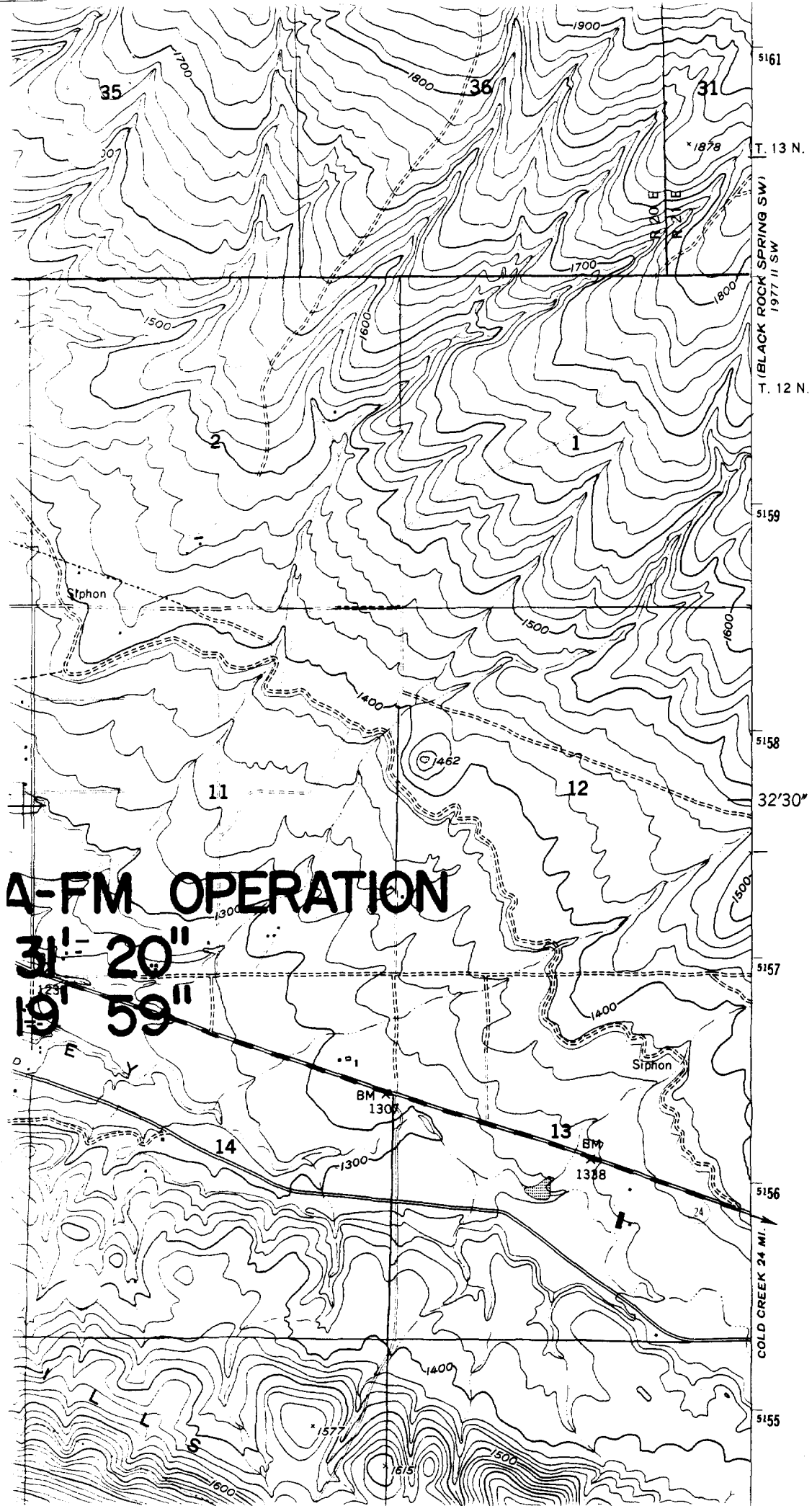
5164

5163

35'

5161





Δ-FM OPERATION

31° 20' 19" 59"

5161

T. 13 N.

BLACK ROCK SPRING SW
1977 II SW

T. 12 N.

5159

5158

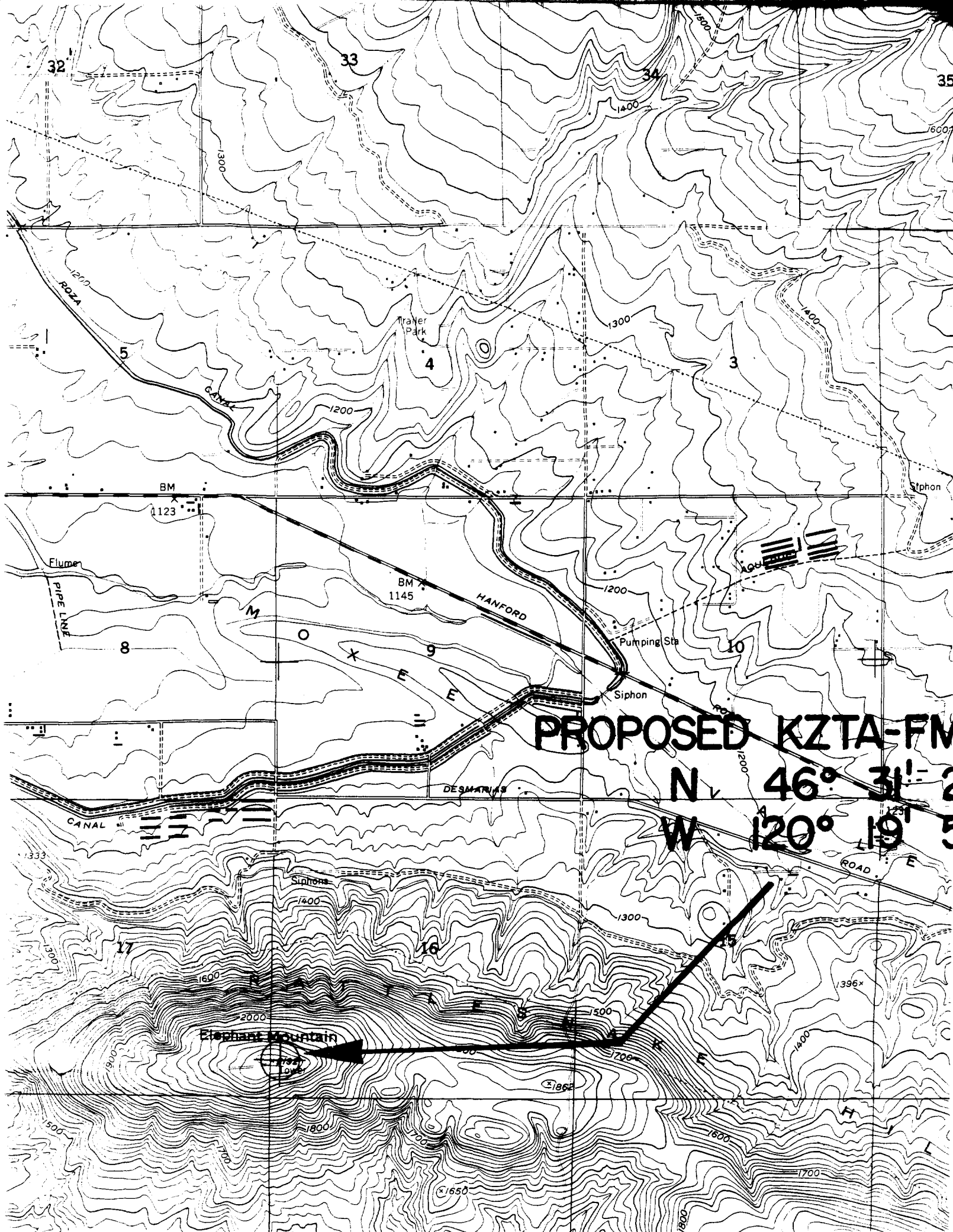
32'30"

5157

5156

COLD CREEK 24 MI.

5155



PROPOSED KZTA-FM
N 46° 31' 2"
W 120° 19' 5"

T. 13 N.

1977 III SW
(YAKIMA EAST)

T. 12 N.

R. 20 E.

R. 19 E.

R. 18 E.

R. 17 E.

R. 16 E.

R. 15 E.

R. 14 E.

R. 13 E.

R. 12 E.

R. 11 E.

R. 10 E.

R. 9 E.

R. 8 E.

R. 7 E.

R. 6 E.

R. 5 E.

R. 4 E.

R. 3 E.

R. 2 E.

R. 1 E.

R. 0 E.

R. 0 W.

R. 1 W.

R. 2 W.

R. 3 W.

R. 4 W.

R. 5 W.

R. 6 W.

R. 7 W.

R. 8 W.

R. 9 W.

R. 10 W.

R. 11 W.

R. 12 W.

R. 13 W.

R. 14 W.

R. 15 W.

R. 16 W.

R. 17 W.

R. 18 W.

R. 19 W.

R. 20 W.

R. 21 W.

R. 22 W.

R. 23 W.

R. 24 W.

R. 25 W.

R. 26 W.

R. 27 W.

R. 28 W.

R. 29 W.

R. 30 W.

R. 31 W.

R. 32 W.

R. 33 W.

R. 34 W.

R. 35 W.

R. 36 W.

R. 37 W.

R. 38 W.

R. 39 W.

R. 40 W.

R. 41 W.

R. 42 W.

R. 43 W.

R. 44 W.

R. 45 W.

R. 46 W.

R. 47 W.

R. 48 W.

R. 49 W.

R. 50 W.

R. 51 W.

R. 52 W.

R. 53 W.

R. 54 W.

R. 55 W.

R. 56 W.

R. 57 W.

R. 58 W.

R. 59 W.

R. 60 W.

R. 61 W.

R. 62 W.

R. 63 W.

R. 64 W.

R. 65 W.

R. 66 W.

R. 67 W.

R. 68 W.

R. 69 W.

R. 70 W.

R. 71 W.

R. 72 W.

R. 73 W.

R. 74 W.

R. 75 W.

R. 76 W.

R. 77 W.

R. 78 W.

R. 79 W.

R. 80 W.

R. 81 W.

R. 82 W.

R. 83 W.

R. 84 W.

R. 85 W.

R. 86 W.

R. 87 W.

R. 88 W.

R. 89 W.

R. 90 W.

R. 91 W.

R. 92 W.

R. 93 W.

R. 94 W.

R. 95 W.

R. 96 W.

R. 97 W.

R. 98 W.

R. 99 W.

R. 100 W.

R. 101 W.

R. 102 W.

R. 103 W.

R. 104 W.

R. 105 W.

R. 106 W.

R. 107 W.

R. 108 W.

R. 109 W.

R. 110 W.

R. 111 W.

R. 112 W.

R. 113 W.

R. 114 W.

R. 115 W.

R. 116 W.

R. 117 W.

R. 118 W.

R. 119 W.

R. 120 W.

R. 121 W.

R. 122 W.

R. 123 W.

R. 124 W.

R. 125 W.

R. 126 W.

R. 127 W.

R. 128 W.

R. 129 W.

R. 130 W.

R. 131 W.

R. 132 W.

R. 133 W.

R. 134 W.

R. 135 W.

R. 136 W.

R. 137 W.

R. 138 W.

R. 139 W.

R. 140 W.

R. 141 W.

R. 142 W.

R. 143 W.

R. 144 W.

R. 145 W.

R. 146 W.

R. 147 W.

R. 148 W.

R. 149 W.

R. 150 W.

R. 151 W.

R. 152 W.

R. 153 W.

R. 154 W.

R. 155 W.

R. 156 W.

R. 157 W.

R. 158 W.

R. 159 W.

R. 160 W.

R. 161 W.

R. 162 W.

R. 163 W.

R. 164 W.

R. 165 W.

R. 166 W.

R. 167 W.

R. 168 W.

R. 169 W.

R. 170 W.

R. 171 W.

R. 172 W.

R. 173 W.

R. 174 W.

R. 175 W.

R. 176 W.

R. 177 W.

R. 178 W.

R. 179 W.

R. 180 W.

R. 181 W.

R. 182 W.

R. 183 W.

R. 184 W.

R. 185 W.

R. 186 W.

R. 187 W.

R. 188 W.

R. 189 W.

R. 190 W.

R. 191 W.

R. 192 W.

R. 193 W.

R. 194 W.

R. 195 W.

R. 196 W.

R. 197 W.

R. 198 W.

R. 199 W.

R. 200 W.

R. 201 W.

R. 202 W.

R. 203 W.

R. 204 W.

R. 205 W.

R. 206 W.

R. 207 W.

R. 208 W.

R. 209 W.

R. 210 W.

R. 211 W.

R. 212 W.

R. 213 W.

R. 214 W.

R. 215 W.

R. 216 W.

R. 217 W.

R. 218 W.

R. 219 W.

R. 220 W.

R. 221 W.

R. 222 W.

R. 223 W.

R. 224 W.

R. 225 W.

R. 226 W.

R. 227 W.

R. 228 W.

R. 229 W.

R. 230 W.

R. 231 W.

R. 232 W.

R. 233 W.

R. 234 W.

R. 235 W.

R. 236 W.

R. 237 W.

R. 238 W.

R. 239 W.

R. 240 W.

R. 241 W.

R. 242 W.

R. 243 W.

R. 244 W.

R. 245 W.

R. 246 W.

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R. 250 W.

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R. 252 W.

R. 253 W.

R. 254 W.

R. 255 W.

R. 256 W.

R. 257 W.

R. 258 W.

R. 259 W.

R. 260 W.

R. 261 W.

R. 262 W.

R. 263 W.

R. 264 W.

R. 265 W.

R. 266 W.

R. 267 W.

R. 268 W.

R. 269 W.

R. 270 W.

R. 271 W.

R. 272 W.

R. 273 W.

R. 274 W.

R. 275 W.

R. 276 W.

R. 277 W.

R. 278 W.

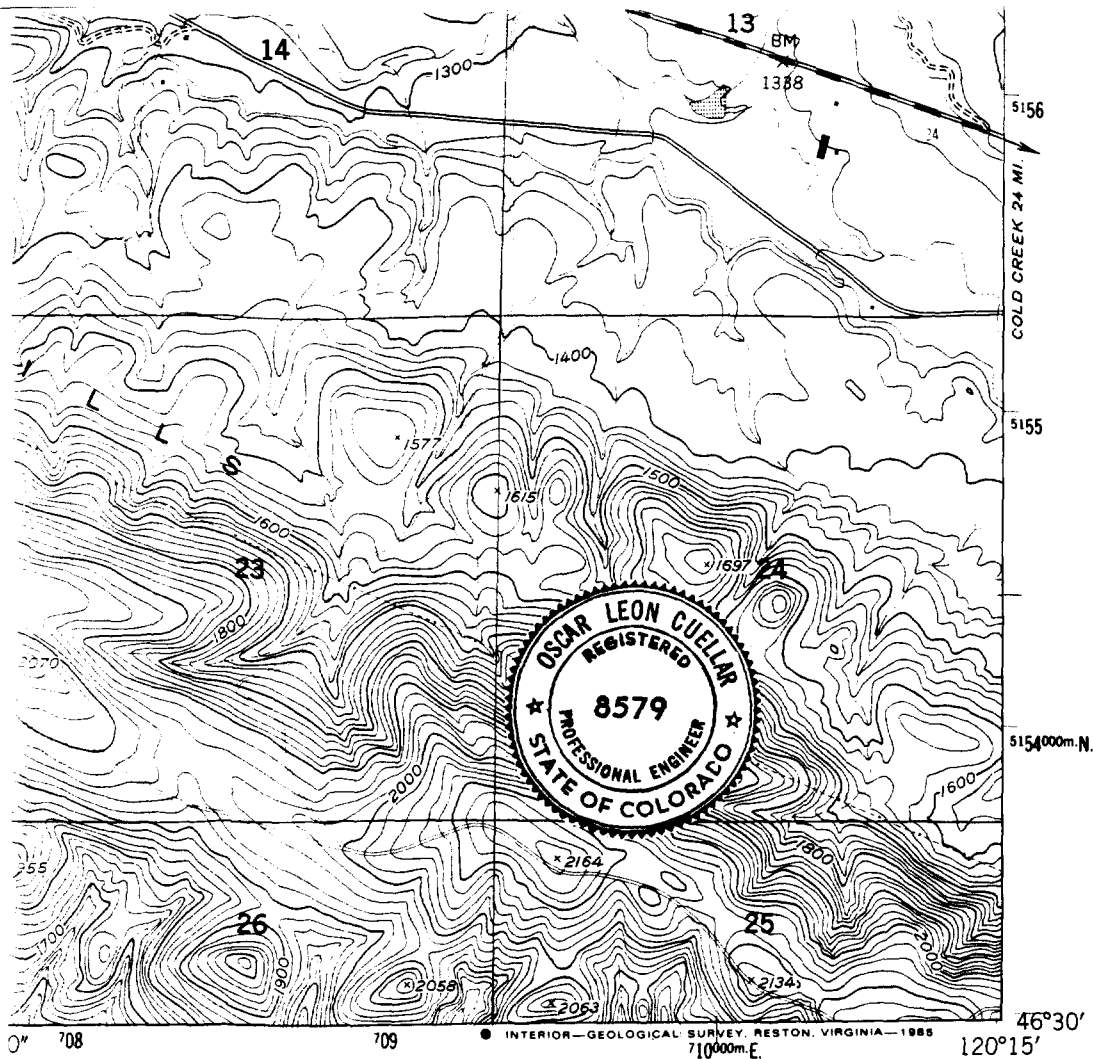
R. 279 W.

R. 280 W.

R. 281 W.

R. 282 W.

R. 283 W.



MILE

ROAD CLASSIFICATION

Medium-duty ——— Light-duty ———
Unimproved dirt =====

○ State Route



QUADRANGLE LOCATION

ELEPHANT MOUNTAIN, WASH.
SE/4 YAKIMA EAST 15' QUADRANGLE
46120-E3-TF-024

Revisions shown in purple compiled by the Geological Survey
from aerial photographs taken 1981.
This information not field checked. Map edited 1985

1953
PHOTOREVISED 1985
DMA 1977 III SE-SERIES V891

(GRANGER NW)
1976 / NW